

May 27, 1998

Mr. John D. Dunlap, III  
Chairman  
Air Resources Board  
2020 L Street  
Sacramento, California 95814

Dear Chairman Dunlap:

I am pleased to forward to you the Scientific Review Panel's (SRP Panel) Findings (enclosure) for the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant Report as adopted unanimously at the Panel's April 22, 1998 meeting.

The data, developed and reviewed by OEHHA and ARB, in the scientific risk assessment on exposure to diesel exhaust (Part A) and its health effects (Part B), are extensive and scientifically sound. The SRP notes the report documents the fact that diesel exhaust includes over 40 substances listed by the U.S. Environmental Protection Agency as hazardous air pollutants and by the ARB as toxic air contaminants.

The exposure estimate in the report may underestimate many Californians' actual total exposure because it excludes elevated exposures near roadways, railroad tracks, and inside vehicles. Other routes of exposure to diesel exhaust, such as ingestion and dermal absorption are also excluded.

Development of this report began in 1989, and this compound has the most human epidemiological studies (over 30) than any of the previous 21 toxic air contaminant reports the Panel has reviewed. These studies have investigated the relationship between occupational diesel exhaust exposure and lung cancer, and the epidemiological evidence indicates exposure to diesel exhaust increases the risk of lung cancer. It is noted that in 1990 the State of California, pursuant to Proposition 65, identified diesel exhaust as a chemical "known to the State to cause cancer."

There are a number of adverse long-term noncancer effects associated with exposure to diesel exhaust. These effects include chronic bronchitis, inflammation of lung tissue, thickening of the alveolar walls, immunological allergic reactions, and airway constriction. As new quantitative data emerge from research on adverse noncancer effects from diesel exhaust, the Reference Exposure Level may require adjustment.

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The Panel believes there is still more to be learned about the adverse health effects associated with exposure to diesel exhaust. The Panel is concerned that some technological advances may result in greater total particulate exposure, particularly of fine particles that penetrate deeper into the lungs, but some controls and fuels may reduce overall particulate level. The Panel encourages further research to quantify the amounts of specific compounds emitted from a variety of engine technologies, operating cycles, and fuel to characterize better any differences between old and new fuels and technologies.

The Panel recognizes that diesel exhaust is a mixture of compounds and the potency factor may change as a result of new engine technologies and "cleaner" fuel. Accordingly, the unit risk factor may change as a result of new peer reviewed research.

We welcome any opportunity to provide additional information helpful to you or that would facilitate the process of identification.

We would appreciate our Findings and this transmittal letter being made a part of the final report.

Sincerely,

/s/

John R. Froines, Ph.D.  
Acting Chairman  
Scientific Review Panel

Enclosure

cc: Scientific Review Panel Members  
Michael Kenny, ARB  
Bill Lockett, ARB

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